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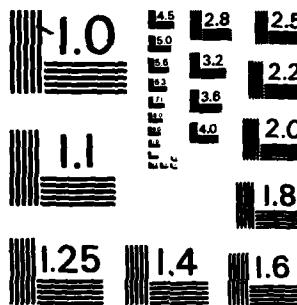
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INDUSTRIAL COLLEGE OF THE ARMED FORCES
NATIONAL DEFENSE UNIVERSITY

ADMINISTRATIVE BARRIERS TO
MEDICAL MOBILIZATION

by

Michael J. Scotti, Jr., 078-30-2133
Colonel, USA

A RESEARCH REPORT SUBMITTED TO THE FACULTY
IN
FULFILLMENT OF THE RESEARCH
REQUIREMENT

Research Supervisor: Mr. John J. Moscato

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**ABSTRACT OF STUDENT RESEARCH REPORT
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Scotti, Michael J., Jr. Colonel, Medical Corps USA 078 38 2133	Administrative Barriers to Medical Mobilization with reference to MOBEX PROUD SABER
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ABSTRACT

Problem Statement: This paper reviews the elements for medical mobilization with particular reference to the authors observations at the 1982 MOBEX PROUD SABER. The process of the exercise is evaluated, and the planning for medical aspects of general mobilization, manpower aspects of medical mobilization, and medical logistic planning is reviewed and evaluated. Particular attention is given to those problems which require only administrative changes to solve.

Findings/Conclusions: The Medical Force Structure for mobilization is based on casualty estimates which may be too low. For current casualty estimates, we can probably find the medical manpower needed to provide care, and staffed beds will be available in the Continental United States. There are needed efficiencies in planning for both areas to avoid delay and confusion. We do not have the necessary deployable medical systems to provide care to casualties in the Theater, and we do not have adequate airlift to bring them home. Urgent attention must be given to funding deployable medical systems (primarily combat surgical hospitals).

Recommendations: 28 given in the paper, major recommendations are:

- + Past MOBEXs did not adequately test medical Mobilization. A separate MEDMOBEX is recommended.
- + Specification and funding of the Deployable Medical Systems placed on the MOBEX Master Urgency List must be funded without delay.
- + Casualty estimates should be reevaluated to include non-conventional war, POWs, and Non-combatants.
- + Air-evacuation capacity is inadequate to support current Evacuation Policy. Medical Force Structure must reflect this reality.

THIS ABSTRACT IS UNCLASSIFIED

SUMMARY

In the midst of preparing a research paper on Administrative Barriers to Medical Mobilization, the author participated as an observer in MOBEX "Proud Saber". This paper is a review of the medical aspects of that exercise with particular reference to administrative problems that hamper our readiness.

Our lack of capacity to provide adequate medical care in a Theater of Operations will prevent our nation from taking military action. "Proud Saber" evaluated our capacity to mobilize, and while the process of the exercise, particularly the medical portion went well, our lack of readiness was obvious. "Proud Saber" was not an adequate test of military medicine. The exercise ended prior to sufficient war-fighting to stress neither the deployed treatment facilities nor the evacuation procedures that end in CONUS hospitals. Additionally, the process was flawed by dispersion of the operational players, and lack of clarity in the roles of the elements of the Crisis Organization. Overall, it was a vast improvement over past MOBEXs in that it rapidly identified the medical shortfalls and gave them wide visibility.

The Medical Force Structure is designed from the casualty estimates provided by Theater CINCs. It is clear that these estimates are too low. They do not include allowance for non-conventional warfare, POWs, nor civilians. They are significantly lower than those estimated by our NATO allies. It may improve these estimates if casualty models, under development, were

completed and if the Theater Commander had a dedicated Surgeon for his Command.

The physical standards for induction in time of war are much lower than those employed currently, and medical disqualifications because medical personnel in USMEPCOM are unfamiliar with mobilization standards may restrict manpower. Medical manpower will be adequate, although we must insure their entry to active duty by reestablishing the "Physician" draft which has now expired, filling the reserve structure which provides 70% of Theater medical units, and finishing the project that has identified retirees with the potential to contribute.

Deployable Medical Systems, e.g., surgical hospitals, are not available in sufficient numbers to do the job, nor is there sufficient stockpiling of supplies and equipment to sustain the force. This has resulted from a combination of factors to include not identifying the problem, not knowing what to request and not getting appropriations. A cogent effort is underway to standardize terminology and unit structure among the Services and to identify the need. Funding will ultimately be based on these actions, but initial purchases cannot wait. We are too far behind. The actual shortfall may be greater than that, which will be identified since it will be based on the Theater Commanders Evacuation Policy. This may be untenable since the air-evacuation assets to support it are not present. The final solution will include standardization, substitutability, and foreign purchase.

Adequacy of available blood supplies was not tested, and contractual arrangements are neither proven nor costed. The newly designed CONUS system of using DOD, VA and civilian hospital beds (CMCHCS) is off to a good start, but needs resolution of problems relating to mismatches among these areas and the MAC landing sites and Aeromedical Staging Facilities.

In all, another good start has been made in solving this problem, but perseverance and money will be needed to solve it.

BIOGRAPHICAL SKETCH

Colonel Michael J. Scotti, Jr., Medical Corps, United States Army, received his M.D. degree cum laude from Georgetown University School of Medicine in 1965 while on active duty as a participant in the Senior Student Program. After two years of duty as a general medical officer including service as a battalion surgeon in the Republic of Vietnam, he underwent graduate medical training in Internal Medicine. He has served twice in the Office of the Surgeon General as Consultant and Chief of Graduate Medical Education and has been a Clinical Department Chief at the hospital and medical center levels of care including three years as Director of a Residency Program. He is a graduate of the Army War College (Corresponding Studies) and a 1983 graduate of the Industrial College of the Armed Forces.

Colonel Scotti is certified by the American Board of Internal Medicine and the American Board of Family Practice.

CHAPTER I

INTRODUCTION

"The brutal fact is if we committed our forces in Europe, Korea, or the South-West Asia today, we could not provide the initial surgery needed to assure the survival of 90 percent of our wounded, much less the care to assure their fully functional recovery." (1)

This statement by the senior Department of Defense (DOD) official responsible for the Military Health Care System was made during testimony before Congress 3 August 1982. It dramatically demonstrates that we have forgotten the lessons taught by the casualties of past conflicts. As a student at the Industrial College of the Armed Forces (1982-83), and as a Medical Officer, I wanted to contribute to the understanding of how this lack of readiness could be addressed. In planning for the research requirement of the Industrial College, I intended to study one aspect of the problem: the administrative and legal entanglements that restrict DOD from procuring and stockpiling drugs and biologicals overseas. During the period 21 October through 5 November 1982, I participated as a student observer in the evaluation of the mobilization exercise (MOBEX) "Proud Saber". It became clear to me that impediments to planning and implementing the necessary components of medical readiness were structural.

Military medicine is crucial: without the support of a

functional military health care system, it is doubtful that an American commander could wage war successfully. In combat the individual soldier sustains his incentive amid a clear and certain danger while suffering personal discomfort incomprehensible to those that have not personally experienced combat. He suffers heavy physical labor, loss of sleep, the inability to achieve basic personal hygiene, and a loss of personal identity. He fights on less and less each day because of the strategic and political implications of a just war, and relies increasingly on his need to contribute to the collective security of his unit. As time passes, the immediacy of the unit constricts to the Company, the Platoon, and ultimately if the combat is sustained at the intensity thought probable in future conflicts, the Squad.

His expectation of immediate medical care for himself and, more importantly, his buddy should he be wounded is certain. We have extolled the capability of Military Medicine to provide needed care and evacuation. We have demonstrated this capacity in past wars. If we are now unable to do so, and the fighting man adds to the intense discomfort of his environment the necessity of caring for his buddy as he dies in the mud without medical care, he will lose the will to continue. The resultant loss of discipline will render the unit ineffective.

On the home front, similar expectations sustain the civilian population. It was demonstrated during the Vietnam Conflict that the will to sustain combat in those at home is as necessary

as the will of those in combat. The image of our fighting men falling without hope of care will dramatically reduce our ability to continue. We have become the victims of our own success.

This paper will address the medical aspects of the "Proud Saber" MOBEX process in the context of the entire exercise, the medical aspects of general mobilization, the manpower aspects of medical mobilization, and the medical logistics planning for such an event. Recommendations for future initiatives and a bibliography will complete the study.

CHAPTER II

Proud Saber Process

"Proud Saber" was the latest in a series of mobilization exercises designed by DOD to evaluate its deployment preparedness and the resultant threat capability. Previous exercises were held by the Army in 1976 (MOBEX 76) and by the Joint Chiefs of Staff in 1978 ("Nifty Nusset") and 1980 ("Proud Spirit"). Although the time frame was slightly different in each ("Nifty Nusset" was more into war fighting than the others, "Proud Spirit" didn't develop into actual conflict, and "Proud Saber" only into the early stages of war) the design was to address the pre-D Day aspects of readiness.

"Proud Saber" was structured to provide the most extensive test of medical deployment readiness in terms of manpower mobilization and equipment preparedness since "Nifty Nusset", and to specifically evaluate the Armed Services Medical Regulations Office (ASMRO) and the Military Blood Program Office (MBPO). A medical consultant (MG Benjamin R. Baker, MC, USAF (Ret.)) was a full scale participant for the first time under contract to the Joint Chiefs of Staff (JCS) through Systems Research and Applications Corporation (SRA) for external evaluation of the MOBEX.

In the evaluation of an exercise of this nature, one must

be particularly careful to evaluate "process" as well as reported results. Since very little actual movement takes place, findings are dependent on the reliability of the feedback that measures the intended result. In such an exercise, the deceased may report for duty, equipment long since stolen is placed into service and transport is provided by trucks without axles and ships without crews. Problems may be assumed away or countered with solutions that are politically or pragmatically naive. The problem solving mechanism within the Services and at the levels of the JCS, DOD, and the National Command Authority must function with as much attention to real time and real constraints as possible. The object is not to prove that something might conceivably be done, but rather what stands in the way of it probably (or in a perfect world, certainly) being accomplished in the allotted time frame. The problems that are not resolved by the test of Occam's razor are the agenda of the mobilization planners at the end of the study.

Medical mobilization should be evaluated in at least two parts: the mobilization of the medical portion of the force structure, and the contribution of medicine to the ability of the total force to mobilize and meet the threat. We tend to concentrate on the first aspect because it lends itself to the quantitative analysis. The study of military history indicates the latter may be a more severe impediment.

We must be cognizant of the effect of human frailties in an evaluation conducted with limitations of time and space. Com-

Elements of DOD and the Services are scattered about the Military District of Washington and around the world. Realtime constraints on the evaluation team prevent them from obtaining first hand information in direct proportion to the distance from the Pentagon to the source of observation. In evaluating the medical play of "Proud Saber", the Office of the Assistant Secretary of Defense (Health Affairs) and the Health Care Operations Directorate of the Army Surgeon General's Office were more directly observed than the parallel offices of the Navy and Air Force located on 23rd Street, N.W. and Bolling Air Force Base respectively. The same phenomenon occurs in the review of planning documents and internal studies. As one official with previous experience as an auditor put it : "I tend to spend most of my time looking at the Service with the clearest audit trail. The other Services may need more attention, but I don't have time to reconstruct the record." Finally, one tends to use the contacts that are known and available, thus I spent appreciably more time with members of the Army Medical Department (AMEDD) than with the other Services.

The medical aspects of the "Proud Saber" process were good. At the Service level, the requirements of the force structure were identified, and where possible the shortfalls determined. In instances where the measurement devices were not capable of assessing deployment readiness, this inadequacy was known. This observation was made directly in the Health Care Operations Of-

fice of the Army and indirectly ascertained for the other Services. The Medical Departments of the Army and Navy had ample opportunity to discuss their respective states of readiness at the morning briefings of the Army and Marine Corps Staff. In each case the shortfalls were presented in a clear and unambiguous manner. I must admit that I was shaken at times by the apparent minimal impact that these reports had on the progress of the exercise.

At the Medical Mobilization and Deployment Steering Committee the participants were familiar with the problems and worked well together. The necessary information was available to the group and the options were reviewed in a cogent manner. The format utilized was that of OSD Emergency Action Package # 35 (2), and it appeared that a disproportionate weight was given to the issues identified as examples within that package. The overall thrust was effective decision making. In several areas the decision was to refer to another component of the Crisis Organization(3), and this was done successfully. In several matters the Services were to obtain information and take action although the tasking was not sufficiently explicit in the early meetings and subsequent follow-through was necessary. Services in a few instances appeared to be waiting for the Committee to place an item on the formal agenda before reporting the results of a previous tasking.

The Health Affairs Board functioned in a similar manner. There was overlap of membership with the Medical Mobilization

and Deployment Steering Committee, and this was partly by design as well as a result of alternates to the Principles. Discussions at the Board had the advantage of being able to work with ongoing incentives for real world problems.

The significant medical materiel shortfalls were identified to the Logistics and Materiel Board, and Deployable Medical Systems were included on the Master Urgency List (MUL). There appeared to be some confusion as to exactly what being on the MUL meant and what Deployable Medical Systems contained. The costs of these systems was similarly vague, probably because all such systems are an aggregate of medical specific and general purpose items, e.g. a field hospital ward would include a treatment chest obtained through medical channels and a tent liner obtained through non-medical procurement.

The shortfall in medical readiness was appropriately identified as, in the expression of the MOBEX, a "war stopper", and was elevated to high visibility at the Crisis Coordination Group. The process of "Proud Saber" had successfully recognized the implications of the status of medical readiness.

CHAPTER III

MEDICAL ASPECTS OF GENERAL MOBILIZATION

Medical Force Structure

The design of the medical force structure is not within the purview of the military departments. The number and types of medical units is essentially predetermined by the Commanders-in-Chief (CINCs) of the Unified and Specified Commands as they provide the casualty estimates and Evacuation Policy upon which the force structure is based. The Services Planning function is in response to their portion of the casualty flow. Except for responsibility for area coverage, generally in the Theater rear, they have no incentive to review the capacity of their sister Services to provide care within the Theater; each plans for their own. As the number of casualties results from contact with the enemy, and as each Service has a variable function in each phase of battle, the casualty rates will differ for each Service in time and in place. As one Service's medical facilities are being overloaded, another's is in a lull period. There may be shortage in the face of redundancy.

The CINCs' estimates of casualties are predicated on their estimates of the interplay between historical rates, the predicted enemy Order of Battle, mission, terrain, weather and the

tactical plan. "Froud Saber" by design ended before significant numbers of casualties were generated, and neither the methodology nor the adequacy of the estimates were evaluated. It is axiomatic that Commanders do not plan for defeat, and casualties are greatest in that event. Sophisticated computer models to generate casualty rates are in development, and at least one includes non-battle injuries and other health related non-effectives. I saw no evidence that these models were being utilized.

Assumptions need to be made in any estimation process. However, as I understood the casualty estimates for the Theaters in which hostile action was contemplated during the exercise, it was assumed that only conventional warfare would occur: tactical nuclear, chemical and biological warfare estimates were excluded. This assumption proved convenient as the exercise reports indicated combat medical facilities were uniformly not prepared for such casualties. There was no provision made for prisoners of war (The Geneva Convention relative to treatment of prisoners of war states in part: "Prisoners of war...whose condition necessitates special treatment, a surgical operation, or hospital care must be admitted to any military or civilian hospital..."). Lastly there was no provision for civilian casualties either United States or foreign. Each of these three eventualities (non-conventional warfare, prisoner patients, and civilian casualties) is possible and in the aggregate, it is probable that they would impact significantly on the medical support requirements.

The Evacuation Policy has great impact upon the medical requirements in Theater. It is the decision of the Theater Commander and is decided on the basis of the trade-off between medical (including evacuation) assets in Theater and the loss of troops through the evacuation chain requiring replacements. The shorter the Evacuation Policy, the less medical assets required but the more evacuation and replacement transportation needed. Aircraft used for intratheater evacuation are not dedicated to patient transport. Patients compete for this limited resource. The material necessary to reconfigure Military Airlift Command transports for litter patients must be transported into the Theater, and may occupy 25-33% of the available cargo space. While imaginative and serious study has been given this problem(5), it remains certain that the air transport available will not fulfill all the priority missions for which it is committed. The downside limit of the Evacuation Policy is the Evacuation Standard. Little understood outside the medical community, the Evacuation Standard is that period of time necessary to provide the patient resuscitative care, operate, allow the patient to stabilize and prepare him for evacuation. The period required to meet the Evacuation Standard is not related to the Evacuation Policy. This issue has been recently and eloquently addressed (6).

-Combatant Evacuation

Non-combatant Evacuation Order (NEO) Portions of the MOSEX

were given greater prominence than in past exercises. Current estimates are that between one and three percent of those requiring evacuation will need evacuation by medical means. The issue is one to three percent of how many? There are two independent sources for NEO: the CINC for defendants and DOD civilians/contract technicians not required with the outbreak of hostilities, and the Department of State for other U.S. citizens abroad. As a result of significant numbers of non-command sponsored defendants overseas, the former number is known imperfectly, the latter is more uncertain. During "Proud Saber" it was appreciated that State had "understandings" with other nations that the United States would assume responsibility for evacuation from the combat zone of their nationals.

Finally as part of the consideration of civilian medical evacuation we must address the issue of non-medical attendants. In the evacuation of civilians an immediate family member (or more in the case of a patient-mother with minor children) is frequently evacuated to preserve family integrity and decision making for the patient. During the period of increasing tension or actual mobilization, this policy will strain the already stressed resources.

Unknown factors relating to the medical treatment and evacuation of non-combatants are the possibility of civilian casualties by virtue of pre-war terrorism or preemptive attack, and the CONUS capacity of the agency responsible for the medical care and transportation on arrival (Health and Human Ser-

vices. I cannot believe that DOD can relinquish all responsibility for support.

Medical Standards for Induction

Nothing has contributed more to national disquiet during wars than the perception that the draft was unfair. The Selective Service Act addresses this concern in many ways and in relation to medical standards includes specifically that:

"...the minimal standards for physical acceptability shall not be higher than those applied to persons inducted between the ages of 18 and 26 in January 1945: Provided further, that the passing requirement for the Armed Forces Qualification Test shall be fixed at a percentile score of 10 points"

The intent was clearly that minor impairments that did not preclude service in World War II shall not release individuals from the responsibility of service in future wars. When war has not been declared, the President may set higher standards. This authority has passed through the Secretary of Defense to the Service Secretaries and indeed much higher standards now exist.

During the Vietnam Conflict, not a declared war, fully 50% of those called were found physically unfit. Commercial publications gave a paragraph by paragraph rendition of military regulations with illustrations of specific historical data and physical impairments that required disqualification. Army regulations (Principally AR 40-501) was consistently out of print as the Government Printing Office lagged behind demand.

Current higher standards have been described by some as an attempt to have an all Green Beret Army. This attitude of promoting disqualification rather than qualification is most explicit in the newly revised all inclusive regulation of the United States Military Enlistment Processing Command (MEPCOM Regulation 40-1) indicating the reasons for disqualification under peacetime standards. There is no similar regulation dealing with mobilization medical fitness standards at MEPCOM, although Army Regulation 40-501, chapter 6 provides them. The other Services reference the Army Regulation.

As an example of how this can present a problem, it was widely reported during "Proud Saber" that a trial call-up of Marine Reservists examined at Quantico revealed 75% were disqualified by reason of dental disease. In point of fact the mobilization standards are essentially edentulous ones. The current incentives in weight control and physical fitness are accentuating the attitude that high standards are necessary to serve. It will not be possible to mobilize with these standards: Military Medicine must have as much expertise in qualifying as we have developed in disqualifying.

CHAPTER IV

MOBILIZATION OF MEDICAL MANPOWER

Triservice Manpower Models

These do not exist. Each Service has an officer model for some portion of its needs, usually with emphasis on physicians, although all cover some portion of nursing requirements and the dental requirements are relatively well specified. Each is different. In one Service a two hundred bed combat hospital will be staffed with twice the number of surgeons as in another. None of the Services have a workable model for enlisted skills, e.g. laboratory, x-ray or operating room technicians. In filling shortfalls during the MOBEX that were identified by current staffing tables, the Services practiced cross fill with significant benefit, especially in the surgical specialties.

Health Professions Draft

Those portions of the Military Selective Service Act which allowed for the preferential induction of selected health professionals (physicians, dentists, veterinarians, nurses and optometrists) has expired. A Bill has been prepared by the administration(?) and was used in the MOBEX. Much broader than the previous legislation, it includes those fields previously mentioned and "Any other field involving the provision of health

care directly to humans or animals and which requires a course of study and licensing, registration, or certification from either a State Government or the Federal Government". It also strikes out the word "males" and inserts "persons". If this Bill became law and the necessary implementing provisions were available to the Selective Service System with sufficient clarity of definition that the expected litigation could be avoided, it would provide the potential to obtain the needed numbers of health professionals.

Unfortunately, the workings of the Selected Service System (SSS) require DOD to request a specific number of individuals by specialty or category. This requirement is then passed to local Boards as a quota to be filled in proportion to the assets available to each Board. DOD is not now in the position to document its needs in the breath of professions inductable under the proposed legislation.

Registration, under the proposal, will be "as directed". There are a number of decisions to be made as to which occupations are covered and to what extent the variety of State licensing and registrations are applicable. Does Mary in Texas, where laboratory technicians are registered, get drafted while Bill in Butte not?

Contract Surgeons

Contract Surgeons are authorized under current law for the Army and Air Force. During "Proud Saber", a draft Bill was cir-

ulated to permit their employ by the Navy. The Contract Surgeon is a significant exception to the general exclusion of personal service contractual agreements with the Federal Government. The permitted pay to a Contract Surgeon in any one month is capped at the pay of an officer in the pay grade O-3 (Captain) with under four years of service. This is currently \$1919. This is less than the going rate for full time employment, but as the law does not specify the period in each month that the physician must work, the hours are adjusted accordingly. Thus full time employment with the connotation of continuity of care is impossible. There is no provision in the law for contract nurses or other health professionals, nor is there any ongoing program of registration of prospective civilian employees in health fields under "When Actually Employed" (WAE) status. Experimental programs under the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) wherein civilian physicians operate in military hospitals under a fee for service basis exist, and from anecdotal information, works well but is infrequently utilized.

Retiree Recall

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Regular Army Officers in retirement may be recalled to duty by a Presidential declaration of an emergency and AUS/Reserve Officers by means of Congressional declaration. This may provide a valuable resource of trained and experienced military medical manpower during mobilization. The Army, for whom the program

is managed by the Reserve Component Personnel Action Center (RCPAC), has identified 277 physicians who are Category I, being less than five years retired and in good health under the age of 60. Calling all retired physicians would provide an additional 1400. Although this program, which could be extended to other health professions has potential, it is in the initial stages of implementation. One Category I physician I know has received his "hip pocket" orders to report (as have all physicians in this group) but since receiving them had moved from Maryland to Tennessee and has contracted a malignancy.

The specialty mix, and the current competence levels have not be ascertained in the Army, and the other Services have just begun to implement this program. I was told that DOD was preparing a uniform classification for the Services.

## CHAPTER V

### LOGISTICS MOBILIZATION

#### Deployment Readiness

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The ability to mobilize is an absolute requirement for deployment readiness of medical combat service support as up to seventy percent (in the Army) of Theater medical units are in the Reserve structure. The insufficiency of the force structure has been discussed in Chapter III: this section will discuss observations relative to the ability of the currently designed force to deploy.

The birth of the United States Army Reserve was 23 April 1909 with the passage of an Act that permitted the Army to federally appoint reserve physicians in the grade of first lieutenant.(3) This was in reaction to the inability of the Army to provide medical support at the outbreak of the Spanish-American War and was a model for Maj. Gen. Leonard Wood's (a physician) efforts for a large federal reserve. It provided the assets for mobilization in World War I. The Medical portion of today's Reserve has significant problems. The situation is much better in comparison to that reported in past MOBEXs, but the improvement in our ability to measure our response has made clearer the actual state of readiness.

At this point it seems that it will be harder to solve issues relating to materiel than those relating to manpower issues, where there have been measurable accomplishments. We now have a clear knowledge of the staffing required for the current force structure, and a reasonable, if imperfect, knowledge of where the officers will come from to fill it. The current plan is to staff units that deploy early with active duty officers by means of professional filler rosters from CONUS medical activities. Cross fill between services has been excercised, and although there is no method of determining the fairness of the procedure without common staffing models, the framework is in place. A less exact process exists for filling the enlisted ranks of deploying units, but the aggregate numbers allow a reasonable expectation of success.

After initial deployment, reservists, retirees and inductees will be used to refill the vacancies created in the CONUS hospitals, provide replacements and to expand the structure. Efforts are underway to fill Reserve Units through initiatives that will attract young professionals, particularly those with surgical specialties for whom the need is greatest, by making Reserve duty less onerous. The lag period in which the CONUS facilities will be unable to function at a normal level, can be covered by use of the Civilian Military Contingency Hospital System, which I will discuss below.

Unit equipment is a much more serious problem. Many units do not have their organizational equipment and use training sets

that provide about one-third the needed capacity. Responsible efforts were made in the Army during "Froud Saber" to combine these sets to permit at least some units to deploy, but this would be a suboptimal if not impractical method during actual movement. The actual equipment present and usable in units labeled as in "decrement", fully configured units in storage without assigned personnel, is uncertain and at least some are equipped with medical materiel from circa 1945-1950. This may be better than nothing, but our present system cannot resupply or maintain them. A recent article(9) described the 2000 beds in decrement in Sagami-Ono, Japan as being in this category.

Prepositioned Overseas Material Configured To Unit Sets (POMCUS) medical equipment is on site, although without inclusion of materiel that is controlled, e.g. narcotics, or dated: these are maintained as part of normal depot stock for issuing as the need arises. It is unclear if overseas depot inventories are large enough to accomplish this. The units so configured should have both medical and non-medical organizational equipment. As Army field medical units are undergoing transition from MUST (Mobile Units, Self Transportable) to MASH (Mobile Army Surgical Hospital) configuration, it appears unclear that all the equipment is present or compatible.

need for standardization among the Services using as few military specifications is obvious, and ongoing efforts continue.

Each Service is responsible in theory for having sixty days of consumable items on hand with the Defense Logistics Agency

having the responsibility for stocking the difference between that amount and the amount needed to maintain the force until production and resupply lines are functioning, the "D TO P" level. The Services have different methods of distributing their War Readiness Materiel (WRM) among the using units and the depots that suffice them. The terminology differs also, as does the degree of fill. In general, medical stockfiles parallel those of non-medical materiel, i.e. the units frequently do not have their required loads, the Services don't have sixty days in hand, and DLA does not have (and probably hasn't been told) what they are to maintain in stock accounts. There is also the flat out problem of insufficient appropriations and lack of will to spend money on consumables that may become dated and deteriorated before use (18).

#### Medical Logistics

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Medical logistics have an inherent advantage in that unlike many other portions of the military inventory, there is an ongoing production of material and equipment for use in the civilian economy. We may not have available in the military supply system "FSN 6505-67-8878, Penicillin, Phenoxymethal, tabs 100, 500mg, 24s", but can purchase at the medical wholesaler "PenUK tablets". Unfortunately a listing of substitutable items does not exist for most military medical items. This is in part due to it just not being done, and in part due to resistance in giving up military specifications. In peacetime almost thirty

Percent of a hospital commander's supply budget (and an unknown part of his equipment budget) is spent locally for non-standard items. Thus many items in everyday use at medical facilities are not standardized or available through the DLA. This has resulted from the frequent avoidance of the time and effort that is involved in getting an item standardized, but also presents a potential problem during mobilization since combat hospitals will not have the option of local purchase.

Addressing the urgent need for standardization of deployable medical treatment facilities is the Military Field Medical Systems Standardization Steering Group (MFMSSSG). Established by the Assistant Secretary of Defense (Health Affairs) in June 1982 (11), the Group (consisting of a Flag Officer representative from each of the Service Medical Departments including an officer assigned to the Marine Corps as medical staff) is seeking to reduce the myriad of combat treatment facilities. Starting with the data from ongoing studies of diagnostically related procedure and materiel usage rates, it has through panels of consultants started to pare down the lists of consumables, non-investment equipment and investment equipment. To the date of the "Proud Saber" exercise, standardization had been effected for shelters, power generation and distribution systems, vehicles and some medical investment equipment. The effort will be to insure that the materiel required by professionals will be available with as little duplication and complexity as possible. The result should be that the Class VIII D-Day Signifi-

cent Items listing being developed by the Defense Medical Materiel Board (DMMB) will be the materiel that the Medical Department needs, and with which they are familiar through training and field exercises.

Some years ago, the Services realized the complexity of coordination necessary among themselves in the medical supply field and a proposal was agreed upon to co-locate the three medical materiel agencies with the Defense Personnel Supply Center (DPSC) of the DLA. The Army and Air Force agencies (USAMMA and AFMMFO) did so, but the Navy is still in Philadelphia. Interaction of these agencies with the MFMSSSG is awaiting the reports of the diagnostically oriented standardization panels.

Addressing the issue of standardization must include the concept of "off-the-shelf" purchase, i.e. buying the commercially available product. While it may be important prior to mobilization that medical items be specially prepared for long time storage in prepositioned stocks, it becomes less important when the same items are being rapidly consumed during war. The purchase of commercial materiel must not be impeded by administrative barriers that are both artificial and illogical. I was astonished to find during the MOBEX that because of a registration dispute between a sole source manufacturer and the Food and Drug Administration had not been resolved, that DOD could not obtain a necessary item for mobilization. The purchase was, if not illegal, legally impossible. The President of the United States,

who during mobilization could call up 100,000 reservists and implement industrial priority plans, could not waive a finding of the FDA. During the exercise, the FDA did eventually waive the requirement, but in real time one wonders how much delay is tolerable.

In the purchase of medical materiel, the Services have by their own regulations precluded items not produced by manufacturers that are FDA approved. Under Congressional prompting some years ago, DOD agreed that they would not duplicate the FDA testing and evaluation program. However, except in rare instances, the FDA does not inspect or certify foreign manufacturing sites that do not export to the United States. Thus the Services have by their own regulations precluded most overseas purchases. For bulky items, such as intravenous fluids, we now purchase in the U.S., ship abroad and store. The same item, made by overseas factories of U.S. dominated international firms to the same FDA standards are not purchased. During a visit to the European depot for the Army, I found that even in peacetime when they had run out of normal saline and wanted to purchase it from a reputable pharmaceutical firm in Germany, the hospital pharmacists refused to accept it(12). Inventory control and maintenance arrangements are complicated by this prohibition, and greater costs in shipping, storage, and through the loss of dated and deteriorated materiel are incurred.

#### **Blood Program**

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The requirements for blood are casualty related, and the limitation of our current estimation process have been discussed in Chapter III. I will not repeat those observations, but we may be underestimating our requirements, and the following should be interpreted in that frame of reference.

During the MOBEX, the Armed Services Military Blood Program Office (MBPO) preformed knowledsibly, although little play was required until late in the exercise. The Office reviewed several real world problems that assisted the understanding of the participants. There is a professional disagreement between the MBPO and certain Theaters as to the use and shipment of whole blood as opposed to blood components, specifically packed red cells, as the standard. Although there have been significant technical advances (under the leadership of military medicine) in processes for freezing and rejuvenation of blood, these modalities were not used in the exercise. A similar observation is applicable to the use of oxygen carrying fluids, although the state of the art for this modality may be too young for current application.

Contracts have been prepared and signed to obtain supplemental supplies of blood from the American Red Cross (ARC) and the American Association of Blood Banks (AABB) at a cost of approximately \$50.00 a unit. I did not see evidence that these costs were estimated or that they were budgeted during the exercise. The availability of blood from these sources was not tested, but the Play did not require it.

### Evacuation and CONUS Hospitalization

Although I did not follow the evacuation airlift capacity closely during "Proud Saber", it was again reported that the requirement would exceed the capacity, and that the Civil Reserve Air Fleet (CRAF) would be employed. A recent paper has described how commercial passenger aircraft might be utilized for ambulatory patients, saving valuable litter space on Military Airlift Command (MAC) aircraft. (13) Real difficulties may be anticipated with multiple flights and destination hospitals may have specific specialty services overloaded while others go below capacity. The CRAF is declining because of economic difficulties and inadequate federal subsidies. The airlines are moving to smaller, more cost effective planes as a result of the "hub and spoke" patterns of service necessitated by deregulation of the industry. These planes will have shorter ranges and be less valuable after mobilization.

The use of MAC cargo aircraft for evacuation of patients in large numbers has never been tested. Several issues need urgent review. The planes must be reconfigured from cargo to patient interiors which will take time on the ground at fields in areas where we will not have absolute air superiority. The material to reconfigure them may take up as much as one-third of their capacity with a resulting decrease in their cargo capacity. The new agreements under the Geneva Convention for the care of the wounded, will not allow our planes protection since they will not be dedicated to patient care (the provisions state

that patients will be categorized as either medical or non-medical and cannot set "one way" registration.

Once in CONUS, the availability of beds from the VA and CMCHCS have made a dramatic difference in our capacity from previous exercises. Beds are now available during the most crucial time: the early days of a conflict when DOD capacity is reduced because its staff has been depleted through the filler program to staff Theater facilities. There was an attitudinal disconnect, in that most DOD personnel assumed that VA and CMCHCS beds would be used after DOD beds were filled, when in fact they will probably be used first.

The effort now must be directed towards directing and controlling patient distribution. There are cogent plans underway to form reserve medical units in each of the 47 CMCHCS areas to train and plan during peacetime, and to be activated in situ during mobilization to implement and control. There will be some readjustment required in that the twenty plus MAC touchdown points do not correspond to the Aeromedical Staging Facilities (ASF) and these do not correspond to the CMCHCS areas. While this is understandable because of the rapid development of CMCHCS, it needs be done. About eighty of our DOD facilities are located in areas where they cannot be integrated with the DOD/VA/CMCHCS systems.

In the MOBEX, as medical planners forecast casualty play into the future, they found that the entire system did get saturated relatively early, and that their optimistic plans for

having no more than four flights into each area daily soon became impossible. By D+23, there were over twenty flights into one city.

CHAPTER III  
RECOMMENDATIONS

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- 1 4 Test/exercise the Post D-Day capacity of military medicine to perform its mission. A MOBEX that ends at D-Day or shortly thereafter fails to adequately stress the system. A separate MEDMOBEX would.
- 2 6 Locate the Medical Operations Sections of all Services at the same place during future MOBEXs, and plan to do so for mobilization. Neither exercise evaluation nor coordination is possible spread across town.
- 3 8 Specify the distinctions among the elements of the MOBEX Crisis Organization. In medical play, because of some commonality of membership, distinctions are not clear relating to the functions of the Medical Mobilization and Deployment Steering Committee and the Health Affairs Board.
- 4 8 Specify and estimate costs of the "Deployable Medical Systems" that were placed on the MUL. We must not lose sight of the real world problem that this deficiency is a "War Stopper".
- 5 9 Planning for time phasing medical facilities into the combat zone should be triservice. We cannot afford the waste of temporal redundancy.
- 6 9 Casualty estimates are probably too low. The estimation of the Theater CINCs should be strengthened by utilizing triservice models (which should be given an urgent push towards completion) and including provision for non-conventional war, POWs, and at the least U.S. civilians in Theater.
- 7 10 Review the re-establishment of Theater Surgeons without other (dual-hatted) responsibilities in peacetime.
- 8 11 Insure that the Theater Commander and other line officers responsibility for planning understand the difference between Evacuation Policy, which they cor-

triat, and Evacuation Standard which is dictated by the patient's medical condition.

9 12 In planning for the medical support of NEO, insure we know what agreements have been made by State with respect to our assuming responsibility for foreign nationals.

10 12 The policy regarding non-medical attendants for medically evacuated patients during mobilization should be reviewed. Space will probably not permit current SOP. Priority will need be established. Given similar condition, who goes on the last litter, a dependent or a tourist?

11 14 USMEPCOM needs to prepare for mobilization physical standards, and insure that a current reference is readily available and understood.

13 15 A triservice staffing model for deployable medical systems is urgently needed. Service Secretaries should review the activity of the MFMSSSG to insure that the mandate to standardize systems includes manpower as well as consumables and equipment.

14 15 Followup to insure the submission to Congress of a Bill to enact a Health Professions Draft should be made. A decision must be made as to the inclusion of categories of individuals who have skills analogous to enlisted grades for which clear identification through consistent licensing does not exist.

16 16 The drafted Bill used in the MOBEX to allow the Navy to employ Contract Surgeons should have followup to insure its submission to Congress.

17 16a Contract Surgeon fees should be increased to reflect current wage scales.

18 16a Why are personal service contracts restricted to surgeons? Review policy to consider including nurses, especially nurse anesthetists.

19 16a Make better and broader plans for retiree use. Finish the loose edges on what has been a good start to insure current information and appropriate utilization.

20 20 The shortfall in medical supplies and equipment must be funded. While Congress rightly expects that we must cut out the redundancy and have some clear standard, to wait until the MFMSSSG is finished is too late. The Services will have to give this issue priority if it

is to succeed.

- 21 20 We must stop reporting equipment as ready if there is significant doubt that it is.
- 22 23 The Navy Medical Materiel Agency should co-locate with other Service Agencies.
- 23 24 Service regulations restricting purchase of medical materiel solely because the FDA has not approved its manufacturer should be revised. Purchase overseas should be accomplished wherever advantageous.
- 24 25 Professional disagreements relating to the use of whole blood vs components should be resolved. The use of state-of-the-art preservation should be implemented when proven.
- 25 25 Availability of blood from contractors should be tested. Cost estimates should be available.
- 26 26 Air-evacuation capacity should be reviewed, and tested specifically. Inadequate resources should effect changes in Evacuation Policy and Medical Force Planning.
- 27 26 The CRAF Program should be reviewed to insure that adequate subsidy is available to provide long range aircraft for mobilization.
- 28 27 Co-location of MAC touchdown points, ASFs and CMCHCs areas should be effected or alternative planning done.

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